

28.1

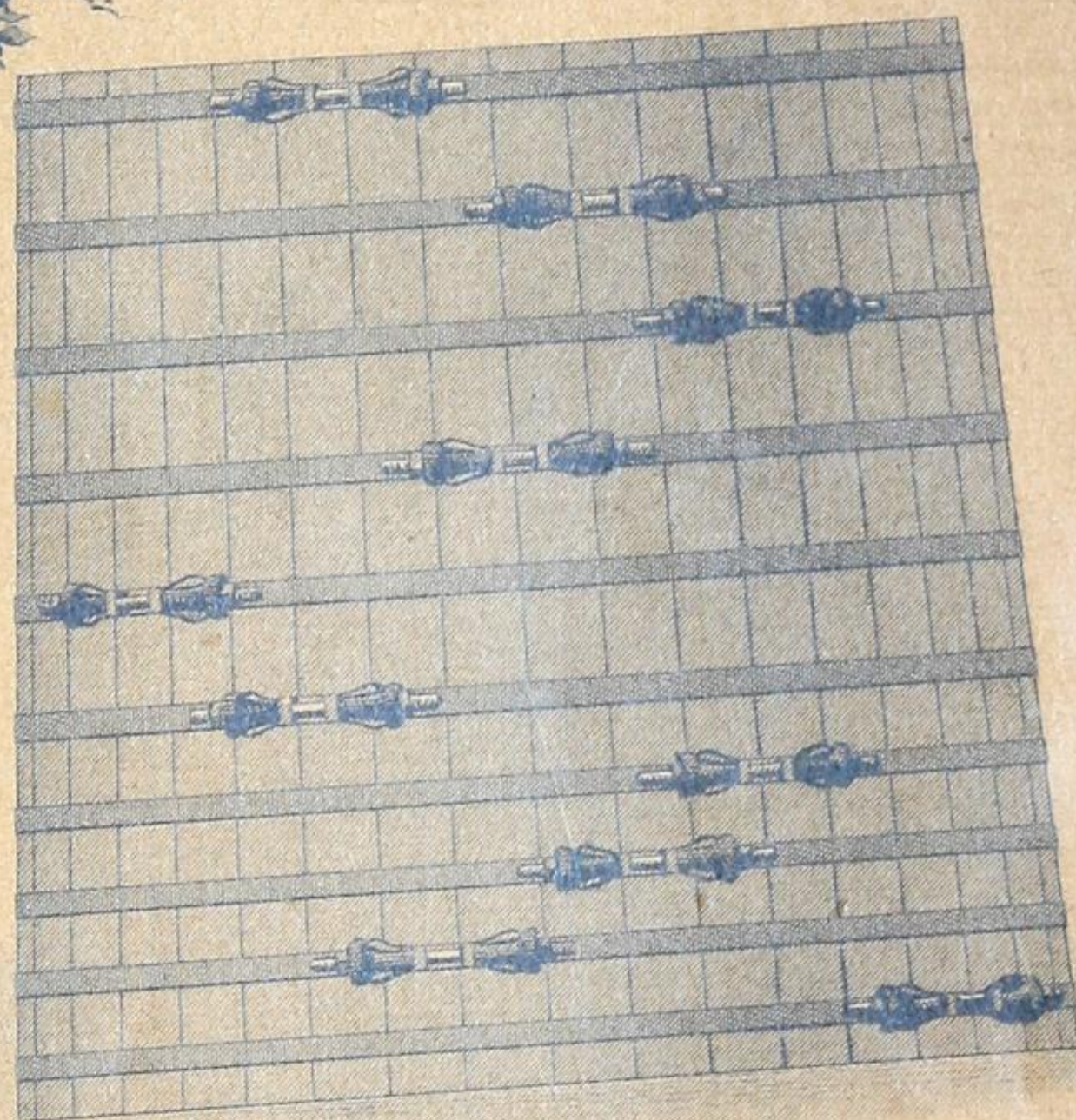
24 N 84

# TANKS. W. E. CALDWELL CO.

INCORPORATED

MANUFACTURERS OF ALL KINDS

TOWERS,  
TANKS,  
AND  
TUBS



## LARGE WATER TANKS A SPECIALTY.

OFFICE:  
218 & 220 E. MAIN ST.

WORKS:  
215 & 217 BROOK ST.

### LOUISVILLE, KY.

### U.S.A.







W. E. CALDWELL,  
President.

H. B. WINTERSMITH,  
Secretary.

## TO THE TRADE.

In presenting our new Tower, Tank and Tub Catalogue to the public, we do so with pardonable pride, from the fact that it is the most complete Tower, Tank and Tub Price-List ever issued from any factory. Not only does it give the dimensions and capacities in gallons of small Tubs and Tanks used, but those also of the largest.

With SEVENTEEN YEARS' experience in manufacturing Towers, Tanks and Tubs, we have acquired a thorough knowledge of the business and the wants of the trade, which enables us to give valuable assistance to those desiring to erect Mills, Factories or Water Supplies.

Every one who has had experience in the use of wooden tanks and tubs, very readily realizes the necessity of a careful selection of material, perfect joints and close fitting where the bottom enters the croze or recess in the stave, and also hoops of the right size and strength, properly placed. To meet the demands of this necessity, we have equipped our factory with a complete and first-class line of the latest and most improved machinery; and with skilled mechanics and a well selected and full stock of all the various materials which are used for this purpose, we are prepared to serve our patrons on the shortest possible notice with any and all sizes of tanks from 300 to 100,000 gallons capacity.

We use only the best brands of iron and steel for our hoops, with proper width and thickness to each, which, when rightly spaced, insure every tank safe and capable of carrying its intended capacity.

When desired, we furnish our Patent Lugs or Band Fasteners, which for strength, durability and simple adjustment have no equal.

For the construction of Reservoirs or Water Tanks, we invariably recommend SOUTHERN CYPRESS, from the indisputable fact of its superiority for lasting qualities over other classes of wood.

Our Patent Sectional All Iron Towers, which are illustrated herein, are being used for all purposes where an elevated water supply is wanted for fire protection for manufacturing plants; for small cities and towns, and for irrigation of lawns, gardens and private grounds, etc.

This Tower is the strongest and most durable structure for this purpose yet designed and can be easily and cheaply erected. It is also the handsomest in appearance, being neat in design and of symmetrical proportions.

See pages 8 to 18 for full description and prices.

### W. E. CALDWELL CO.,

INCORPORATED,

OFFICE:

218 & 220 E. Main Street,

WORKS:

215 & 217 Brook Street,

LOUISVILLE, KY., U. S. A.,

1894.

NOTE—We are also manufacturers of Iron and Steel Tanks, both round and square, and will furnish same at low prices.

WRITE FOR PRICES.

LIBRARY of  
THE  
FRANKLIN  
INSTITUTE

10 93-5 1141 TCF



Gallons . . . . .	Inside Diameter .		No. of Hoops . .	Shipping Weight.		Price complete, Riveted Hoops.	Price of Lugs, Extra . . . . .	Gallons . . . . .	Inside Diameter .		No. of Hoops . .	Shipping Weight.		Price complete, Riveted Hoops.	Price of Lugs, Extra . . . . .
	ft.	in.		ft.	in.				ft.	in.		ft.	in.		
158	3.0	3.0	3	220	lbs.	\$10 00	\$2 40	1127	8.0	3.0	3	754	lbs.	\$24 20	\$2 65
180	3.0	3.5	4	256		11 00	2 69	1294	8.0	3.5	4	840		27 00	3 45
216	3.6	3.0	4	277		12 00	2 69	1500	8.0	4.0	5	931		30 05	4 50
240	3.6	3.5	4	303		13 00	2 69	1656	8.0	4.5	5	989		31 85	4 50
321	4.0	3.5	4	361		15 20	2 69	2031	8.0	5.5	5	1096		35 50	4 50
406	4.6	3.5	4	402		16 55	2 69	2406	8.0	6.5	6	1248		40 15	5 30
587	5.0	4.0	4	505		18 50	2 86	2781	8.0	7.5	6	1372		44 05	5 55
648	5.0	4.5	4	543		20 55	2 86	637	8.6	1.5	2	615		19 65	1 85
712	5.6	4.0	4	566		21 90	3 20	849	8.6	2.0	2	675		21 50	1 85
788	5.6	4.5	5	624		23 00	4 00	1061	8.6	2.5	3	765		24 50	2 65
964	5.6	5.5	5	706		26 00	4 00	1273	8.6	3.0	3	825		26 40	2 65
317	6.0	1.5	2	363		15 00	1 60	1450	8.6	3.5	4	915		28 25	3 45
422	6.0	2.0	2	411		16 00	1 80	1697	8.6	4.0	4	982		31 50	3 70
527	6.0	2.5	3	476		18 00	2 65	1875	8.6	4.5	4	1038		32 05	3 70
632	6.0	3.0	3	520		20 50	2 65	2299	8.6	5.5	5	1190		38 20	4 50
720	6.0	3.5	4	586		22 50	3 45	2723	8.6	6.5	5	1314		42 10	4 75
845	6.0	4.0	5	645		24 00	4 00	3148	8.6	7.5	6	1462		46 90	5 55
934	6.0	4.5	5	694		25 50	4 00	3572	8.6	8.5	7	1616		51 90	6 35
1145	6.0	5.5	5	776		28 00	4 25	714	9.0	1.5	2	656		20 95	1 85
372	6.6	1.5	2	419		16 25	1 60	951	9.0	2.0	3	740		23 70	2 40
495	6.6	2.0	3	487		18 00	2 40	1188	9.0	2.5	3	804		25 70	2 40
618	6.6	2.5	3	535		19 75	2 40	1425	9.0	3.0	4	907		29 25	3 45
741	6.6	3.0	3	583		21 25	2 40	1623	9.0	3.5	4	971		31 20	3 45
848	6.6	3.5	4	656		23 00	3 20	1900	9.0	4.0	4	1035		33 20	3 45
993	6.6	4.0	5	729		25 50	4 00	2098	9.0	4.5	4	1104		35 35	3 70
1096	6.6	4.5	5	778		27 60	4 25	2577	9.0	5.5	5	1260		40 40	4 50
1344	6.6	5.5	6	906		29 00	5 25	3053	9.0	6.5	5	1394		44 65	4 75
1592	6.6	6.5	6	1010		33 15	5 30	3529	9.0	7.5	6	1553		49 80	5 55
431	7.0	1.5	2	446		17 00	1 60	4004	9.0	8.5	7	1711		54 95	6 35
575	7.0	2.0	2	496		18 25	1 60	795	9.6	1.5	2	726		23 15	1 85
719	7.0	2.5	3	570		19 75	2 40	1060	9.6	2.0	3	821		26 30	2 40
863	7.0	3.0	3	620		21 50	2 40	1320	9.6	2.5	3	889		28 40	2 40
983	7.0	3.5	4	694		23 50	3 20	1590	9.6	3.0	3	964		30 80	2 65
1151	7.0	4.0	4	751		25 25	3 45	1811	9.6	3.5	4	1066		34 20	3 45
1271	7.0	4.5	4	801		27 50	3 45	2120	9.6	4.0	4	1134		36 30	3 45
1559	7.0	5.5	4	901		30 00	3 45	2348	9.6	4.5	4	1223		39 15	3 70
1847	7.0	6.5	5	1031		34 50	4 50	2871	9.6	5.5	5	1385		44 45	4 75
495	7.6	1.5	2	509		18 00	1 60	3402	9.6	6.5	6	1554		49 95	5 55
660	7.6	2.0	3	589		19 75	2 40	3933	9.6	7.5	7	1730		55 70	6 60
825	7.6	2.5	3	643		21 00	2 40	4462	9.6	8.5	7	1859		59 70	6 35
990	7.6	3.0	3	697		22 50	2 40	4992	9.6	9.5	7	2002		64 25	6 60
1128	7.6	3.5	4	778		25 00	3 20	881	10.0	1.5	2	765		24 40	1 85
1322	7.6	4.0	4	833		30 15	3 45	1175	10.0	2.0	2	837		26 65	1 85
1460	7.6	4.5	4	893		31 50	3 45	1468	10.0	2.5	3	945		30 25	2 65
1790	7.6	5.5	5	1032		35 55	4 50	1762	10.0	3.0	3	1017		32 25	2 65
2120	7.6	6.5	5	1140		37 60	4 50	2006	10.0	3.5	4	1124		36 05	3 45
563	8.0	1.5	2	552		17 65	1 85	2348	10.0	4.0	4	1202		38 50	3 70
751	8.0	2.0	2	610		19 45	1 85	2592	10.0	4.5	4	1274		40 75	3 70
939	8.0	2.5	3	689		22 05	2 40								

The above capacities are based on Tanks having straight staves, but, unless otherwise ordered, we usually make them with a slight taper.

We guarantee the capacities as above to be correct.

All Tanks in which the depth ends in even half feet are only made to order.



Gallons . . . . .	Inside Diameter .	Inside Depth . .	No. of Hoops . .	Shipping Weight.	Price complete, Riveted Hoops.	Price of Lugs, Extra . . . . .	Gallons . . . . .	Inside Diameter .	Inside Depth . .	No. of Hoops . .	Shipping Weight.	Price complete, Riveted Hoops.	Price of Lugs, Extra . . . . .
	ft. in.	ft. in.		lbs.				ft. in.	ft. in.		lbs.		
3182	10.0	5.5	5	1454	\$46 60	\$4 50	2115	12.0	2.5	3	1226	\$39 15	\$ 2 65
3770	10.0	6.5	5	1608	51 50	4 75	2538	12.0	3.0	3	1318	42 05	2 90
4357	10.0	7.5	6	1784	57 20	5 55	2891	12.0	3.5	3	1414	45 10	3 15
4945	10.0	8.5	7	1971	63 30	6 60	3384	12.0	4.0	4	1534	49 10	3 70
5532	10.0	9.5	8	2158	69 35	7 40	3737	12.0	4.5	4	1620	51 75	3 70
972	10.6	1.5	2	881	28 05	1 85	4582	12.0	5.5	5	1843	59 05	4 75
1295	10.6	2.0	2	962	30 60	2 10	5428	12.0	6.5	6	2065	66 80	5 80
1609	10.6	2.5	2	1036	32 90	2 10	6274	12.0	7.5	7	2280	73 30	6 60
1943	10.6	3.0	3	1140	36 35	2 65	7110	12.0	8.5	8	2494	80 25	7 60
2213	10.6	3.5	4	1251	40 05	3 45	7956	12.0	9.5	8	2682	86 20	7 85
2590	10.6	4.0	4	1325	42 40	3 45	8802	12.0	10.6	9	2898	98 55	8 65
2860	10.6	4.5	5	1443	46 35	4 50	9658	12.0	11.5	9	3091	99 18	9 10
3508	10.6	5.5	5	1591	50 95	4 50	1377	12.6	1.5	2	1150	36 60	2 10
4155	10.6	6.5	6	1783	57 25	5 55	1836	12.6	2.0	3	1289	41 15	2 65
4803	10.6	7.5	7	1968	63 25	6 35	2295	12.6	2.5	3	1369	43 65	2 65
5452	10.6	8.5	7	2123	68 15	6 60	2754	12.6	3.0	3	1466	46 75	2 90
6100	10.6	9.5	8	2314	74 35	7 65	3136	12.6	3.5	3	1563	49 85	3 15
1066	11.0	1.5	2	933	29 75	2 10	3672	12.6	4.0	4	1696	54 25	3 70
1421	11.0	2.0	2	1011	32 15	2 10	4053	12.6	4.5	4	1784	57 00	3 70
1777	11.0	2.5	3	1120	35 75	2 65	4971	12.6	5.5	5	2003	64 15	4 75
2132	11.0	3.0	3	1198	38 20	2 65	5890	12.6	6.5	7	2276	73 25	6 60
2428	11.0	3.5	4	1307	41 80	3 20	6808	12.6	7.5	7	2452	78 75	6 60
2843	11.0	4.0	4	1392	44 50	3 45	7726	12.6	8.5	8	2672	85 90	7 40
3139	11.0	4.5	4	1470	46 95	3 45	8644	12.6	9.5	8	2865	92 05	7 85
3850	11.0	5.5	5	1679	53 80	4 75	9638	12.6	10.6	9	3084	104 70	8 65
4561	11.0	6.5	6	1877	60 25	5 55	10481	12.6	11.5	9	3279	105 40	9 10
5272	11.0	7.5	7	2079	66 85	6 60	5378	13.0	5.5	6	2138	68 70	5 80
5982	11.0	8.5	8	2274	73 20	7 40	6370	13.0	6.5	6	2322	74 50	5 80
6694	11.0	9.5	8	2438	78 37	7 65	7363	13.0	7.5	7	2556	82 10	6 60
7405	11.0	10.6	9	2632	89 60	8 45	8356	13.0	8.5	7	2744	88 50	6 80
1165	11.6	1.5	2	976	31 10	2 10	9349	13.0	9.5	9	3045	98 15	9 10
1553	11.6	2.0	2	1058	33 65	2 10	10420	13.0	10.6	9	3250	110 50	9 55
1942	11.6	2.5	3	1164	37 15	2 40	11333	13.0	11.5	10	3481	112 20	10 55
2331	11.6	3.0	3	1246	39 70	2 40	12410	13.0	12.6	10	3684	124 45	11 00
2654	11.6	3.5	3	1335	42 50	2 65	5800	13.6	5.5	6	2187	70 25	5 55
3107	11.6	4.0	4	1457	46 55	3 45	6870	13.6	6.5	6	2388	76 60	5 80
3430	11.6	4.5	4	1548	49 50	3 70	7940	13.6	7.5	7	2984	84 20	6 60
4207	11.6	5.5	5	1760	56 40	4 75	9010	13.6	8.5	7	2816	90 30	6 80
4985	11.6	6.5	6	1976	63 40	5 55	10080	13.6	9.5	9	3129	100 85	9 10
5762	11.6	7.5	7	2176	69 95	6 60	11150	13.6	10.6	10	3378	115 05	10 35
6539	11.6	8.5	8	2380	76 57	7 40	12220	13.6	11.5	10	3580	115 45	10 55
7316	11.6	9.5	8	2552	82 00	7 65	13290	13.6	12.6	10	3778	127 75	11 00
8093	11.6	10.6	9	2756	93 75	8 45	6237	14.0	5.5	5	2262	72 50	5 20
1269	12.0	1.5	2	1020	32 50	2 10	7388	14.0	6.5	6	2518	80 85	6 20
1692	12.0	2.0	3	1140	36 45	2 65	8540	14.0	7.5	7	2765	88 90	7 00
							9691	14.0	8.5	8	2819	97 15	8 05

The above capacities are based on Tanks having straight staves, but, unless otherwise ordered, we usually make them with a slight taper.

We guarantee the capacities as above to be correct.

All Tanks in which the depth ends in even half feet are only made to order.



Gallons . . . . .	Inside Diameter .	Inside Depth . . .	No. of Hoops . . .	Shipping Weight .	Price complete, Riveted Hoops .	Price of Lugs, Extra . . . . .	Gallons . . . . .	Inside Diameter	Inside Depth . . .	No. of Hoops . . .	Shipping Weight .	Price complete, Riveted Hoops .	Price of Lugs, Extra . . . . .
	ft. in.	ft. in.		lbs.				ft. in.	ft. in.		lbs.		
10843	14.0	9.5	9	3265	\$105 15	\$ 8 85	10264	16.6	6.5	7	3283	\$105 55	\$ 7 25
11995	14.0	10.6	9	3592	122 45	9 55	11864	16.6	7.5	8	3611	116 40	8 95
13146	14.0	11.5	10	3796	122 60	11 00	13464	16.6	8.5	8	3854	124 05	9 15
14298	14.0	12.6	10	4080	138 25	12 35	15064	16.6	9.5	8	4178	134 75	9 60
15449	14.0	13.5	10	4280	138 25	12 35	16660	16.6	10.6	9	4510	153 05	11 35
6691	14.6	5.5	5	2452	78 50	5 20	18264	16.6	11.5	9	4799	155 15	12 00
7925	14.6	6.5	6	2716	87 10	6 20	19864	16.6	12.6	11	5150	174 20	13 60
9160	14.6	7.5	7	2970	95 37	7 00	21464	16.6	13.5	11	5385	174 20	13 60
10395	14.6	8.5	8	3234	104 00	8 05	23064	16.6	14.6	11	5626	189 15	13 85
11631	14.6	9.5	9	3488	112 25	8 85	24664	16.6	15.5	13	5985	193 85	15 90
12866	14.6	10.6	9	3820	129 90	9 55	9197	17.0	5.5	5	2956	94 70	4 95
14102	14.6	11.5	10	4035	130 25	11 00	10894	17.0	6.5	7	3382	109 20	7 25
15320	14.6	12.6	10	4326	146 30	12 35	12592	17.0	7.5	7	3627	116 85	8 15
16573	14.6	13.5	10	4532	145 55	11 90	14290	17.0	8.5	8	3933	126 86	9 15
7160	15.0	5.5	5	2530	80 90	4 95	15988	17.0	9.5	9	4273	138 20	10 40
8412	15.0	6.5	6	2820	90 45	6 20	17827	17.0	10.6	9	4556	154 85	11 35
9804	15.0	7.5	7	3093	100 65	7 25	19384	17.0	11.5	9	4865	157 40	12 00
11126	15.0	8.5	8	3386	109 05	8 95	21233	17.0	12.6	9	5216	176 60	12 00
12448	15.0	9.5	8	3696	119 36	8 95	22639	17.0	13.4	11	5457	176 60	13 60
13778	15.0	10.6	9	3917	133 00	9 35	24619	17.0	14.6	12	5788	195 05	15 10
15090	15.0	11.5	9	4130	133 65	9 95	26035	17.0	15.4	13	6085	197 20	15 90
16413	15.0	12.6	10	4394	148 20	11 00	27733	17.0	16.6	14	6632	223 75	16 70
17735	15.0	13.5	11	4730	152 80	12 70	29431	17.0	17.4	15	6942	226 35	17 50
19057	15.0	14.6	12	4943	166 50	13 75	9746	17.6	5.5	5	3113	99 70	4 95
7645	15.6	5.5	5	2599	83 16	4 95	11545	17.6	6.5	7	3554	114 70	7 25
9057	15.6	6.5	6	2884	92 50	6 20	13344	17.6	7.5	7	3798	122 35	8 15
10468	15.6	7.5	7	3165	101 70	7 25	15143	17.6	8.5	7	4114	133 90	9 15
11880	15.6	8.5	7	3476	112 00	8 95	16943	17.6	9.5	8	4416	142 45	9 60
13390	15.6	9.5	8	3789	123 60	8 95	18892	17.6	10.6	9	4764	161 55	11 35
14702	15.6	10.6	8	3942	133 65	8 95	20541	17.6	11.5	9	5082	164 15	12 00
16114	15.6	11.5	9	4226	136 05	9 95	22490	17.6	12.6	9	5328	179 65	12 00
17526	15.6	12.6	10	4502	152 15	11 30	23990	17.6	13.4	11	5690	184 15	13 60
18937	15.6	13.5	11	4840	156 50	12 70	26088	17.6	14.6	12	5926	203 00	15 10
20349	15.6	14.6	12	5116	172 30	13 75	27588	17.6	15.4	13	6334	205 25	15 90
8147	16.0	5.5	5	2686	85 90	4 95	29387	17.6	16.6	14	6970	232 65	16 70
9651	16.0	6.5	7	3048	98 10	7 25	31186	17.6	17.4	15	7222	235 35	17 50
11155	16.0	7.5	8	3370	108 75	8 95	10312	18.0	5.5	6	3372	108 75	8 15
12659	16.0	8.5	8	3604	116 15	9 15	12215	18.0	6.5	7	3689	119 05	8 95
14163	16.0	9.5	8	3922	127 90	9 60	14118	18.0	7.5	8	4091	132 50	9 85
15667	16.0	10.6	9	4240	144 35	11 35	16021	18.0	8.5	9	4433	143 75	11 10
17171	16.0	11.5	9	4529	147 60	12 00	17924	18.0	9.5	9	4689	151 75	11 10
18675	16.0	12.6	11	4853	164 55	13 60	19827	18.0	10.6	9	5040	171 30	12 00
20179	16.0	13.5	11	5080	164 55	13 60	21730	18.0	11.5	10	5370	174 05	13 05
21683	16.0	14.6	11	5330	179 60	14 00	23475	18.0	12.6	11	5786	196 05	17 00
23187	16.0	15.5	13	5678	184 15	15 90	25378	18.0	13.4	11	6041	196 05	17 00
8664	16.6	5.5	5	2905	92 80	4 95	27281	18.0	14.6	11	6298	212 05	17 00

The above capacities are based on tanks having straight staves, but, unless otherwise ordered, we usually make them with a slight taper.

We guarantee the capacities as above to be correct.

All tanks in which the depth ends in even half feet are only made to order.



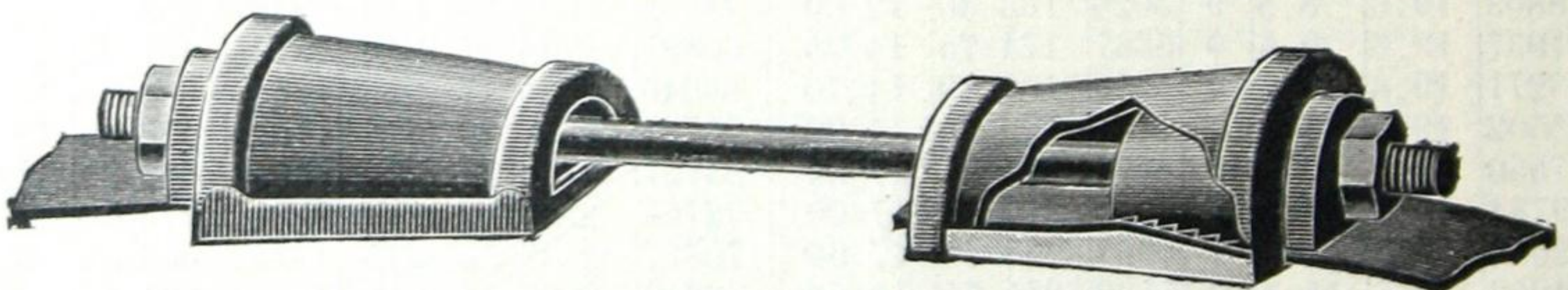
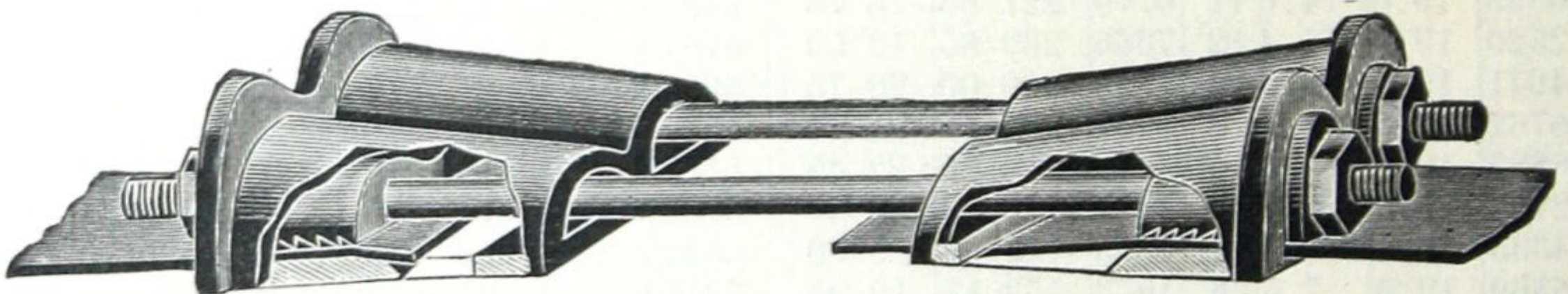
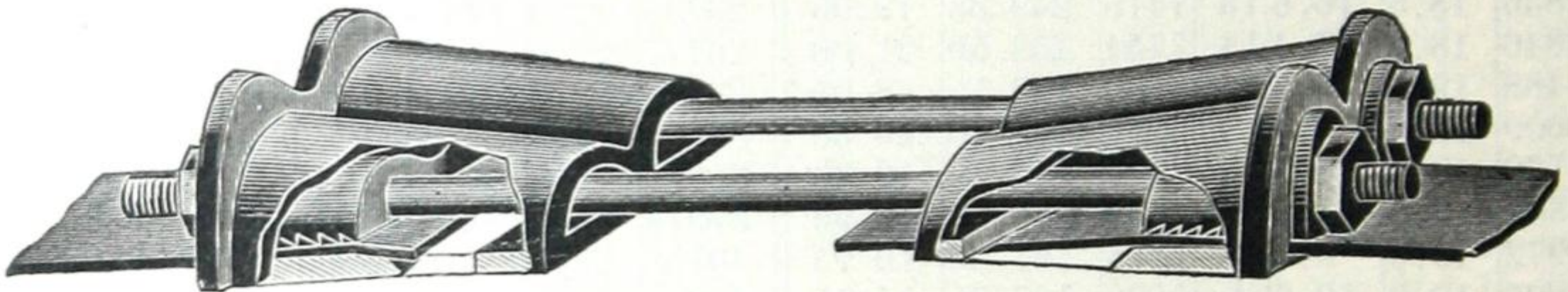
Gallons . . . . .	Inside Diameter .	Inside Depth . . .	No. of Hoops . . .	Shipping Weight .	Price complete, Riveted Hoops .	Price of Lugs, Extra . . . . .	Gallons . . . . .	Inside Diameter .	Inside Depth . . .	No. of Hoops . . .	Shipping Weight .	Price complete, Riveted Hoops .	Price of Lugs, Extra . . . . .
ft. in.	ft. in.	ft. in.	lbs.				ft. in.	ft. in.	ft. in.	lbs.			
29184	18.0	15.4	12	6750	\$219 45	\$18 05	24480	20.0	10.6	9	5804	\$197 25	\$14 25
31087	18.0	16.6	13	7083	238 65	19 30	26830	20.0	11.5	9	6160	200 00	14 70
32990	18.0	17.4	13	7408	240 90	19 75	28985	20.0	12.6	10	6520	220 60	15 30
10891	18.6	5.5	6	3580	115 30	7 35	31334	20.0	13.4	10	6885	223 65	15 95
12902	18.6	6.5	7	3901	125 75	7 95	33684	20.0	14.6	11	7245	244 30	17 00
14912	18.6	7.5	8	4309	139 45	9 85	36035	20.0	15.4	12	7734	252 00	19 50
16923	18.6	8.5	9	4655	150 80	11 10	38385	20.0	16.6	12	8010	269 50	19 50
18934	18.6	9.5	9	4913	158 85	11 10	40725	20 0	17.4	13	8459	274 70	21 20
20944	18.6	10.6	9	5254	178 25	12 00	43085	20.0	18.6	14	8834	296 85	22 05
22954	18.6	11.5	10	5591	181 05	13 05	45435	20.0	19.4	15	9281	302 05	24 15
24796	18.6	12.6	11	6018	203 65	17 00	SEE NOTE BELOW.						
26806	18.6	13.4	11	6280	203 65	17 00	15402	22.0	5.5	6	6596	211 85	10 90
28816	18.6	14.6	11	6534	219 80	17 00	18246	22.0	6.5	7	7164	230 30	12 15
30826	18.6	15.4	12	7000	227 45	18 05	21090	22.0	7.5	7	7649	245 60	12 60
32836	18.6	16.6	13	7416	249 65	19 95	23933	22.0	8.5	8	8217	264 00	13 85
34846	18.6	17.4	14	7754	252 50	21 00	26777	22.0	9.5	8	8798	282 90	15 10
11488	19.0	5.5	6	3780	122 15	8 00	29620	22.0	10.6	9	9518	315 75	16 35
13609	19.0	6.5	8	4217	136 90	10 30	32464	22.0	11.5	9	9828	315 75	16 35
15730	19.0	7.5	8	4485	145 30	10 30	35071	22.0	12.6	10	10570	349 45	18 05
17852	19.0	8.5	8	4830	156 50	10 95	37914	22.0	13.4	10	10890	349 80	18 05
19972	19.0	9.5	9	5176	167 80	10 95	40758	22.0	14.6	11	11684	385 40	18 25
22093	19.0	10.6	9	5530	187 85	14 75	43601	22.0	15.4	12	12196	393 00	20 15
24212	19.0	11.5	10	5890	191 25	15 95	46445	22.0	16.6	13	12895	425 05	21 20
26158	19.0	12.6	10	6156	208 00	15 95	49289	22.0	17.4	14	13311	429 05	22 45
28279	19.0	13.4	11	6504	210 90	16 75	52132	22.0	18.6	15	14015	461 25	23 50
30399	19.0	14.6	11	6770	227 65	16 75	54976	22.0	19.4	16	14556	469 95	26 00
32520	19.0	15.4	12	7366	239 85	19 50	57819	22.0	20.6	17	15350	505 55	27 70
34641	19.0	16.6	13	7723	260 00	20 75	60663	22.0	21.4	17	15666	505 55	27 70
36762	19.0	17.4	13	8057	262 40	21 20	45121	24.0	13.4	10	12254	393 80	17 20
38883	19.0	18.6	14	8442	283 65	22 45	51889	24.0	15.4	12	13464	432 90	19 50
12101	19.6	5.5	6	3871	125 20	8 00	58657	24.0	17.4	15	14690	472 55	23 50
14335	19.6	6.5	7	4305	139 80	9 70	65426	24.0	19.4	16	16142	520 70	26 00
16569	19.6	7.5	8	4673	153 15	10 95	72194	24.0	21.4	17	17340	559 90	27 70
18803	19.6	8.5	9	5026	163 40	12 00	78962	24.0	23.4	18	18467	595 30	28 95
21037	19.6	9.5	9	5367	174 75	14 25	60897	26.0	15.4	13	15134	487 55	21 20
23271	19.6	10 6	9	5656	192 30	14 70	68840	26 0	17.4	15	16545	533 65	23 95
25502	19.6	11.5	11	6109	199 35	17 00	76784	26.0	19.4	16	17925	578 45	26 65
27550	19.6	12.6	11	6377	215 95	17 00	84727	26.0	21.4	18	19566	633 30	32 80
29784	19.6	13.4	11	6653	215 95	17 00	92761	26.0	23.4	19	20810	673 10	34 50
32018	19.6	14.6	11	6967	234 65	17 00	70627	28.0	15.4	15	13247	558 55	27 25
34252	19.6	15.4	12	7539	245 75	19 50	79840	28.0	17.4	16	18573	601 40	29 05
36486	19.6	16.6	13	7908	266 80	20 75	89052	28.0	19.4	17	20022	648 80	31 55
38726	19.6	17.4	13	8246	269 35	21 25	98264	28.0	21.4	18	21448	693 90	33 25
40954	19.6	18.6	14	8610	289 45	22 45	107476	28.0	23.4	19	22816	738 00	35 30
12729	20.0	5.5	6	4036	130 85	8 00	81077	30.0	15.4	13	18720	605 75	26 10
15079	20.0	6.5	7	4347	140 75	9 25	91653	30.0	17.4	14	20161	651 40	27 80
17429	20.0	7.5	8	4792	155 70	10 95	102228	30.0	19.4	17	22072	713 95	33 70
19779	20.0	8.5	8	5072	164 45	10 95	112803	30.0	21.4	18	23574	763 65	35 40
22130	20.0	9.5	8	5352	173 20	10 95	123379	30.0	23.4	19	25076	812 10	37 10

The above capacities are based on tanks having straight staves, but, unless otherwise ordered, we usually make them with a slight taper.

We guarantee the capacities as above to be correct.

NOTE.—These prices on all tanks up to and including 20 feet in diameter are based on 2-inch thick material; all tanks 22 feet in diameter, and over, are based on 3-inch thick material. All tanks above 15,000 gallons capacity should be made of thicker material than 2-inch. However, we have often made tanks of 25,000 gallons capacity of 2-inch Cypress.



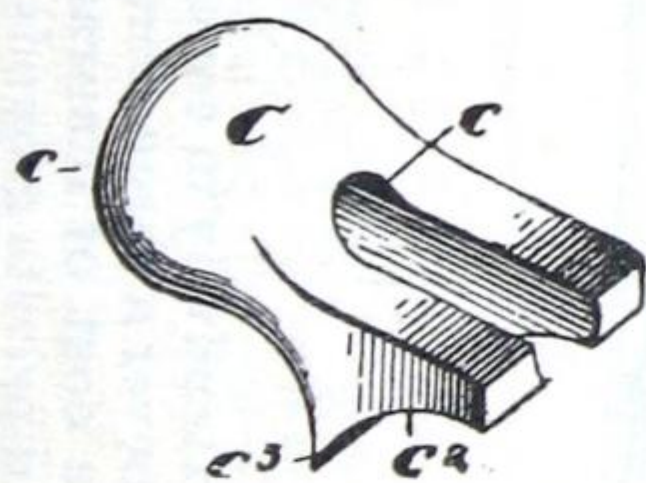
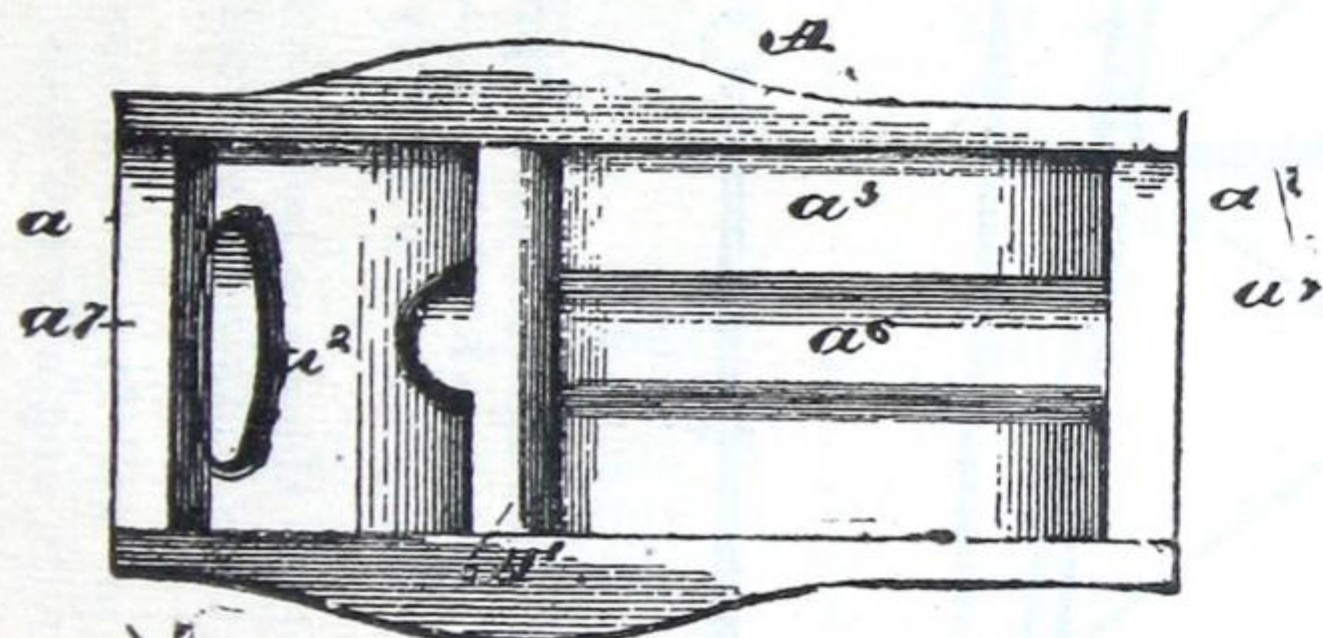
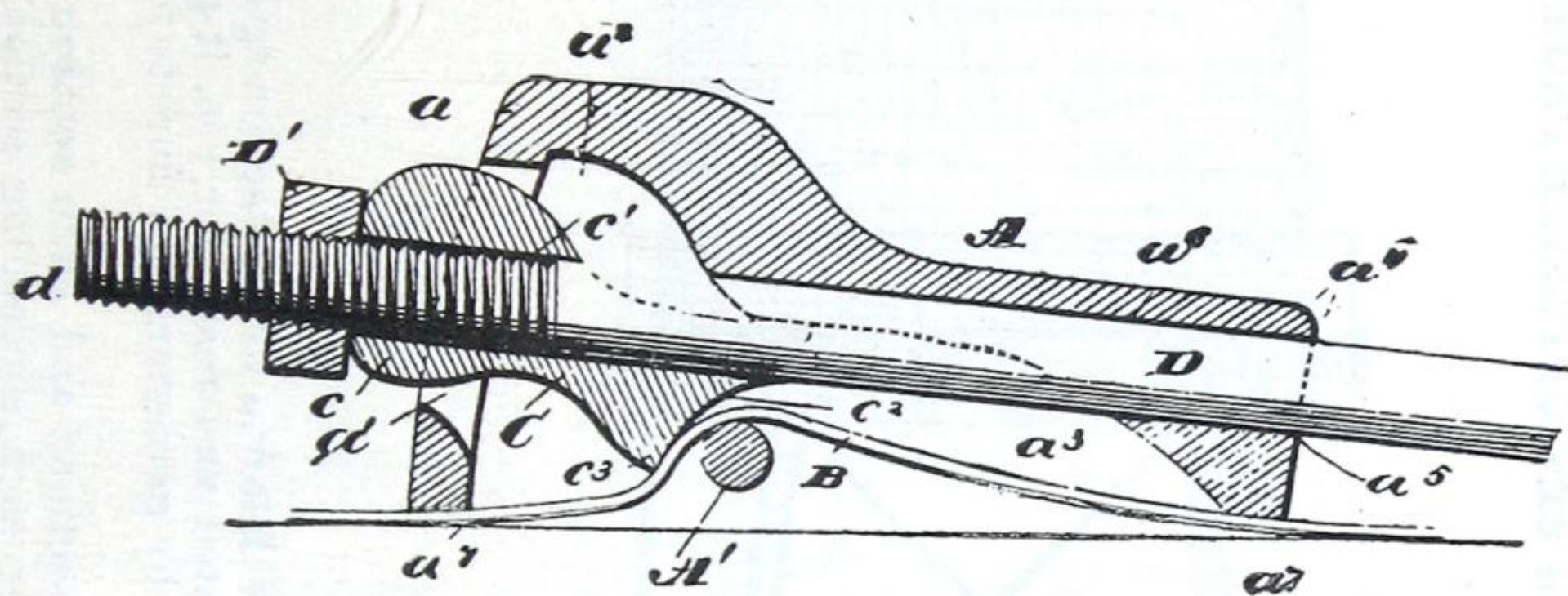
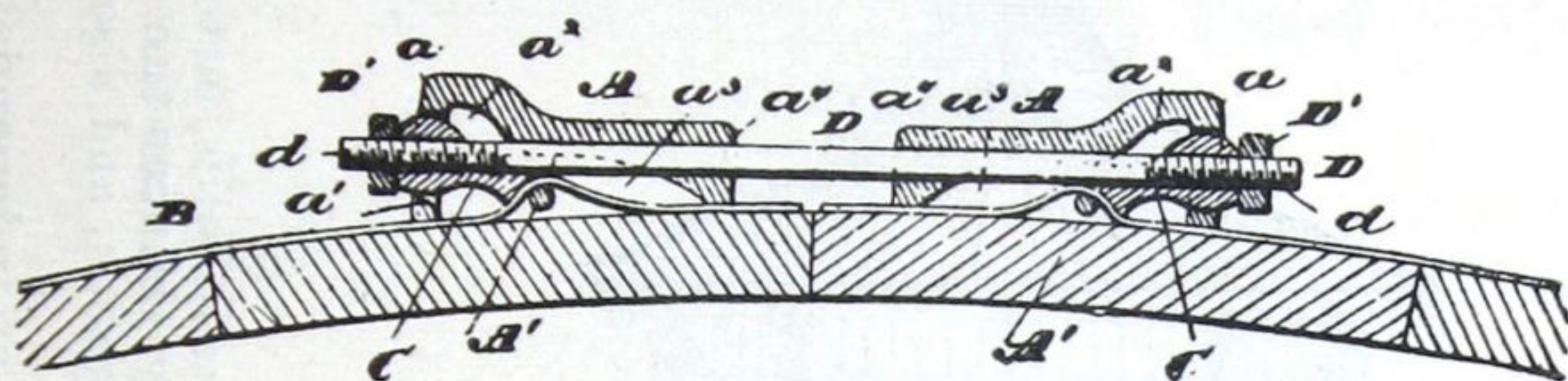


### PRICE-LIST OF TECKTONIUS' PATENT LUGS.

				Per Pair.
1½ inch Patent Lugs	.	.	.	\$0 40
2 " " "	.	.	.	60
2½ " " "	.	.	.	80
3 " " "	.	.	.	1 00
3½ " " "	.	.	.	1 50
4 " " "	.	.	.	2 00
5 " " "	.	.	.	2 50
6 " " "	.	.	.	3 50

WRITE FOR DISCOUNTS.





## PRICE-LIST OF SCOTT'S PATENT LUGS.

					Per Pair.
1½	inch	Scott's	Patent	Lugs	\$0 40
2	"	"	"	"	60
2½	"	"	"	"	80
3	"	"	"	"	1 00
3½	"	"	"	"	1 50
4	"	"	"	"	2 00
5	"	"	"	"	2 50
6	"	"	"	"	3 50

WRITE FOR DISCOUNTS.

## Why should Patent Lugs be used on all Tanks?

**Because of the convenience in tightening the hoops at will.**

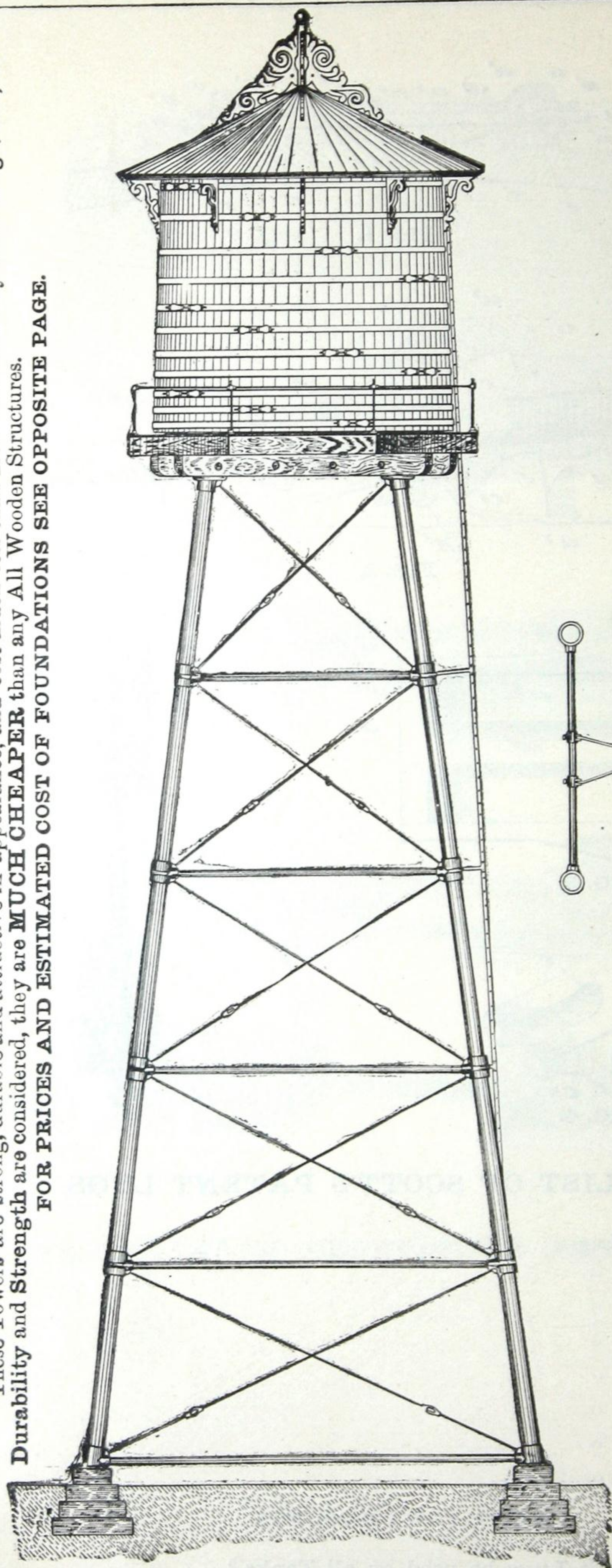


## PATENT SECTIONAL ALL IRON TOWERS.

This cut illustrates our 4-column Patent All Iron Towers, which we build in sections, suitable to support Tanks of dimensions up to and including 18 feet in diameter and of 30,000 gallons capacity.

These Towers are strong, durable and attractive in appearance, and cost much less than Iron Towers of any other design, and, when Durability and Strength are considered, they are **MUCH CHEAPER** than any All Wooden Structures.

FOR PRICES AND ESTIMATED COST OF FOUNDATIONS SEE OPPOSITE PAGE.



This style of Tower is used extensively in connection with **Automatic Sprinkler Plants** for protection against fire in mills, factories and other large buildings, as, whenever a large storage of water is kept on hand, elevated and ready for use, it greatly reduces the fire risk and consequently lessens the cost of insurance. They are also largely used by gardeners and florists for irrigation, and also for water supplies for small villages and private grounds.

They are **strong, durable and neat** in design, and, as they are built in short sections, and each section is set up independently and finished before beginning to set up the next section, thus making a scaffolding for each succeeding section, the work of erection is easily and cheaply executed.

The iron joint connections are made on angles such as will fit the columns when cut off square on each end and inserted into sockets in the iron couplings. It is all strongly bound together with angle brace rods, as shown in the cut, and all rods are provided with turn buckles for securing proper tension.

There is no great amount of skill required to erect one of these Towers. The cost of the iron work of these Towers over and above that of an ordinary framed all wooden structure is saved in the cost of erection alone.

This cut represents our 63-foot All Iron Tower and 30,000-gallon Cypress Tank.

SEE PRICES AND ESTIMATED COST OF FOUNDATIONS ON OPPOSITE PAGE.



**4-COLUMN PATENT SECTIONAL ALL IRON TOWERS.****CLASS O.**

Height.	Capacities of Tanks that Towers will Support.	Shipping Weight Iron Work.	Cost Iron Work.	Shipping Weight Tower Complete.	Cost of Tower Complete.	Estimated Cost of Founda- tions.
15		610 lbs.	\$ 41 00	1,210 lbs.	\$ 52 00	\$7 50
27	1,500	1,190 "	74 40	1,790 "	85 40	7 50
39	gallons	1,800 "	110 00	2,400 "	121 00	7 50
51	and	2,480 "	155 90	3,080 "	166 90	7 50
63	less.	3,200 "	208 10	3,800 "	219 10	7 50
75		3,980 "	250 00	4,580 "	261 00	7 50

**CLASS A.**

15		800 lbs.	\$ 47 75	1,790 lbs.	\$ 67 50	\$12 50
27	2,000	1,537 "	90 75	2,527 "	110 50	12 50
39	to	2,338 "	137 50	3,328 "	157 25	12 50
51	3,000	3,210 "	187 50	4,200 "	207 25	12 50
63	gallons.	4,152 "	241 25	5,142 "	261 00	12 50
75		5,133 "	297 50	6,123 "	317 25	12 50

**CLASS B.**

15		1,175 lbs.	\$ 67 00	2,595 lbs.	\$ 95 50	\$15 00
27	4,000	2,262 "	128 00	3,682 "	156 50	15 00
39	to	3,435 "	191 25	4,855 "	219 50	15 00
51	6,000	4,694 "	261 50	6,114 "	289 75	15 00
63	gallons.	6,035 "	335 75	7,455 "	364 25	15 00
75		7,493 "	411 25	8,913 "	439 50	15 00

**CLASS C.**

15		1,606 lbs.	\$ 94 50	3,622 lbs.	\$134 75	\$20 00
27	7,000	3,085 "	180 00	5,101 "	220 25	20 00
39	to	4,680 "	271 75	6,696 "	312 00	20 00
51	10,000	6,395 "	370 00	8,411 "	410 25	20 00
63	gallons.	8,231 "	474 50	10,247 "	514 75	20 00
75		10,200 "	585 80	12,216 "	626 00	20 00

**CLASS D.**

15		2,063 lbs.	\$119 75	5,393 lbs.	\$186 50	\$30 00
27	12,000	3,984 "	230 25	7,314 "	296 75	30 00
39	to	6,048 "	348 25	9,378 "	414 75	30 00
51	15,000	8,248 "	473 50	11,578 "	540 00	30 00
63	gallons.	10,585 "	606 00	13,915 "	672 75	30 00
75		13,223 "	755 75	16,553 "	822 50	30 00

**CLASS E.**

15		2,635 lbs.	\$151 75	6,829 lbs.	\$235 75	\$40 00
27	15,000	4,992 "	284 00	9,185 "	367 75	40 00
39	to	7,438 "	424 25	11,632 "	508 25	40 00
51	20,000	10,062 "	573 00	14,256 "	656 75	40 00
63	gallons.	12,836 "	729 75	17,030 "	813 50	40 00
75		15,757 "	890 75	19,950 "	975 50	40 00

**CLASS F.**

15		3,195 lbs.	\$ 189 00	7,389 lbs.	\$ 273 00	\$50 00
27	20,000	5,883 "	346 75	10,000 "	430 50	50 00
39	to	8,727 "	513 00	12,900 "	596 75	50 00
51	30,000	11,717 "	687 25	15,900 "	772 00	50 00
63	gallons.	14,855 "	869 75	19,000 "	953 50	50 00
75		18,143 "	1,060 50	22,300 "	1,145 00	50 00

**CLASS G.**

15		3,850 lbs.	\$ 240 75	11,450 lbs.	\$ 341 75	\$60 00
27	30,000	7,010 "	438 10	14,610 "	539 10	60 00
39	to	10,345 "	645 35	17,495 "	746 35	60 00
51	40,000	13,865 "	862 00	21,465 "	963 00	60 00
63	gallons.	17,570 "	1,089 00	25,170 "	1,190 00	60 00
75		21,475 "	1,326 00	29,075 "	1,427 00	60 00

The Heights above given are from the ground or grade-line to the bottom of the Tank.  
Note the shipping weights given. We guarantee them to be correct.

These Towers take a very low rate of freight. Write for delivered prices.

**SEE CUT ON OPPOSITE PAGE.**

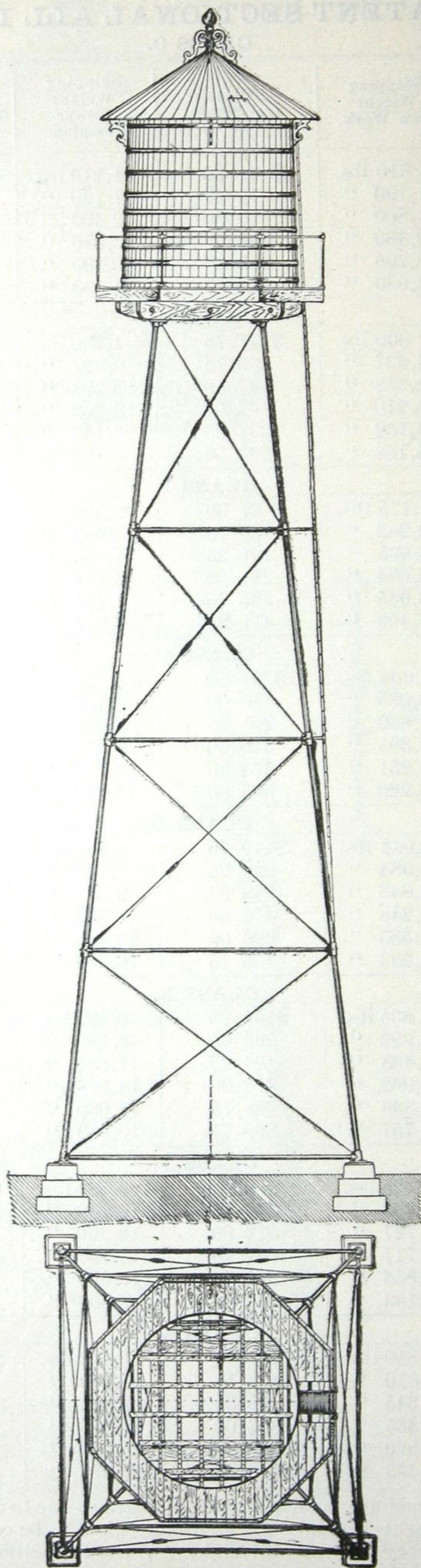
**THE HEIGHTS GIVEN ABOVE ARE OUR STANDARD HEIGHTS.**



### PATENT SECTIONAL ALL IRON TOWERS.

This cut represents our 4-column All Iron Towers as built for supporting Tanks of small capacities, the design being the same as of the Tower described on the preceding pages.

This cut represents our 51-foot All Iron Tower and 2,000-gallon Cypress Tank.



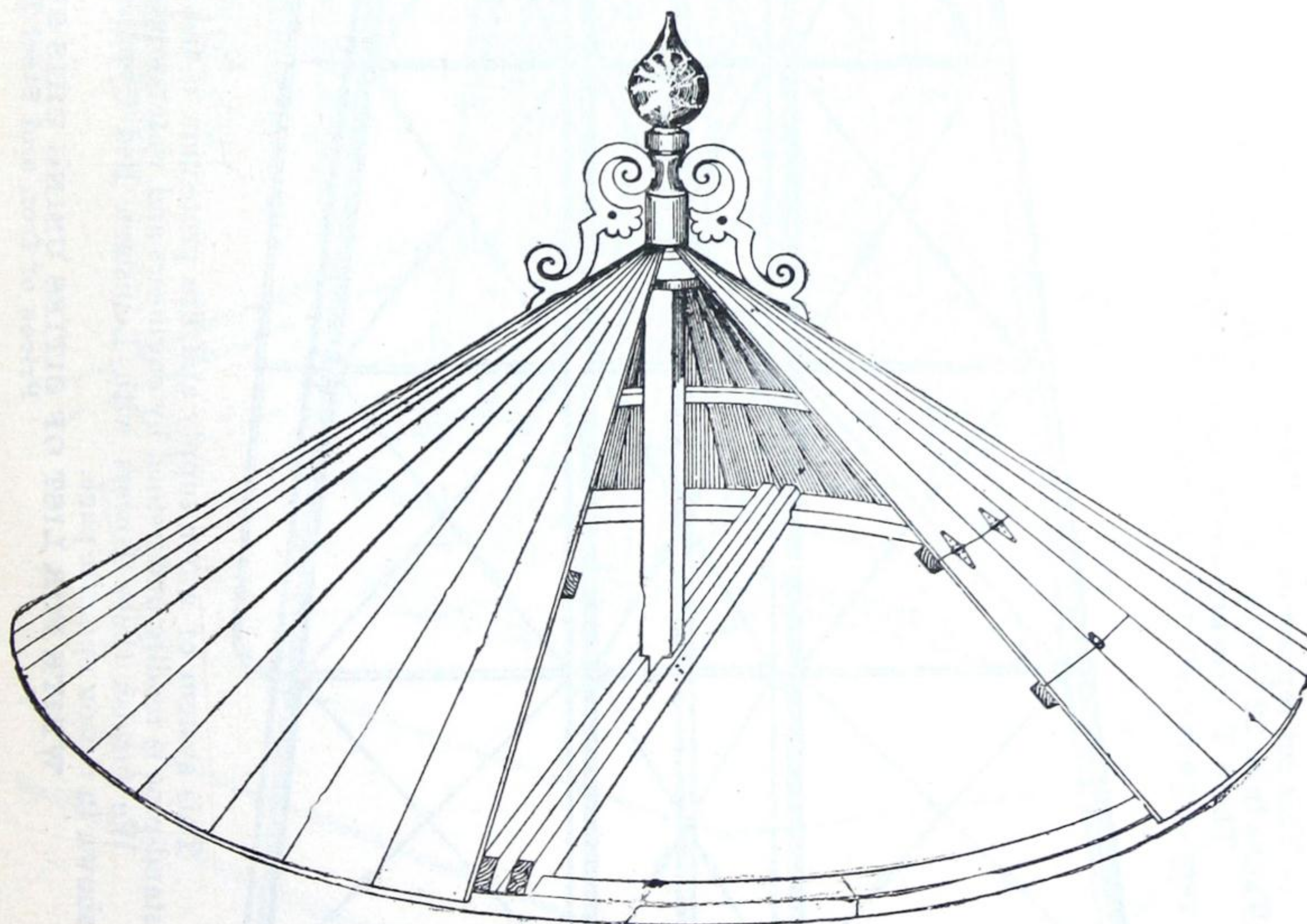
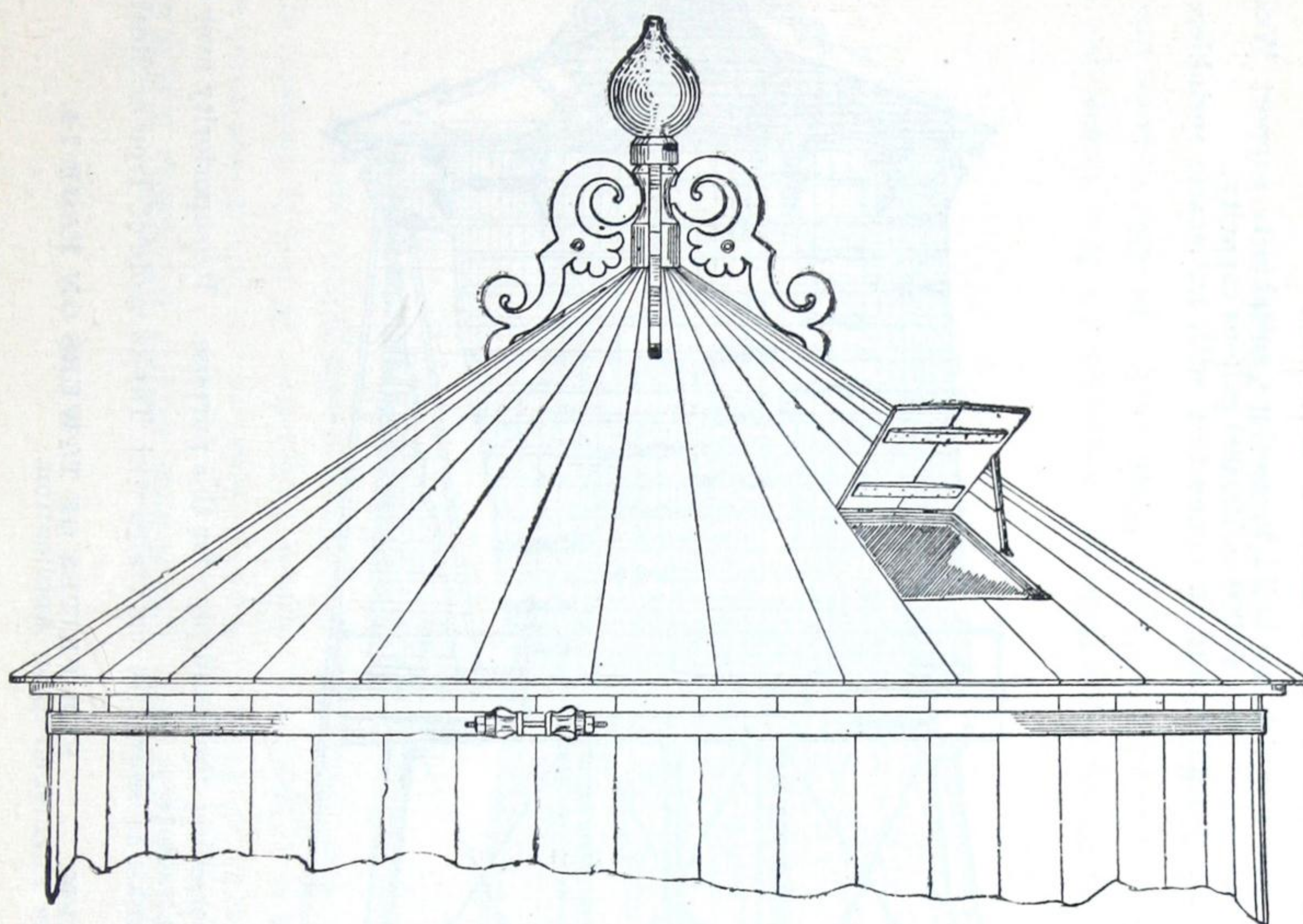
FOR PRICES SEE PRECEDING PAGE.

We furnish these small Towers and Tanks principally to Florists, Gardeners and to Parties desiring Elevated Tanks for Private Grounds. They are suitable for supporting Tanks of small capacities for any purpose.

With each Tower we furnish Free Gratis, Complete Plans, Specifications and Bills of Material for the Foundations; also for the Erection of the Tower Complete.



PLAIN CONICAL COVERS.



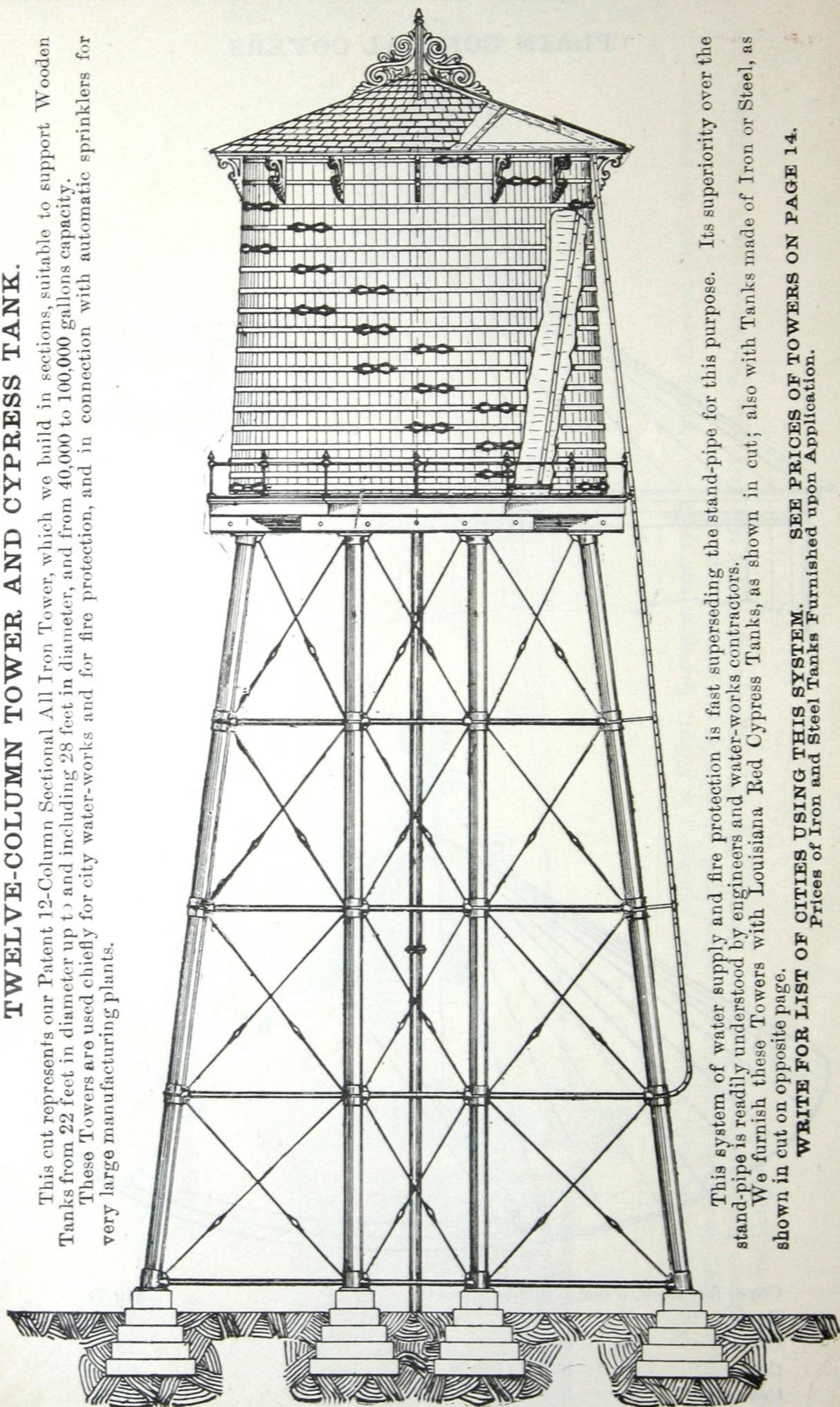
Cover for Tank, 6 feet 6 inches diameter . . . . .	\$10 75
Cover " 8 " 0 " " . . . . .	13 50
Cover " 10 " 0 " " . . . . .	18 75
Cover " 12 " 0 " " . . . . .	24 00
Cover " 14 " 0 " " . . . . .	35 00
Cover " 16 " 0 " " . . . . .	50 00
Cover " 18 " 0 " " . . . . .	75 00



## TWELVE-COLUMN TOWER AND CYPRESS TANK.

This cut represents our Patent 12-Column Sectional All Iron Tower, which we build in sections, suitable to support Wooden Tanks from 22 feet in diameter up to and including 28 feet in diameter, and from 40,000 to 100,000 gallons capacity.

These Towers are used chiefly for city water-works and for fire protection, and in connection with automatic sprinklers for very large manufacturing plants.



This cut represents our 51-foot All Iron Tower and 60,000-gallon Cypress Tank.

This system of water supply and fire protection is fast superseding the stand-pipe for this purpose. Its superiority over the stand-pipe is readily understood by engineers and water-works contractors.

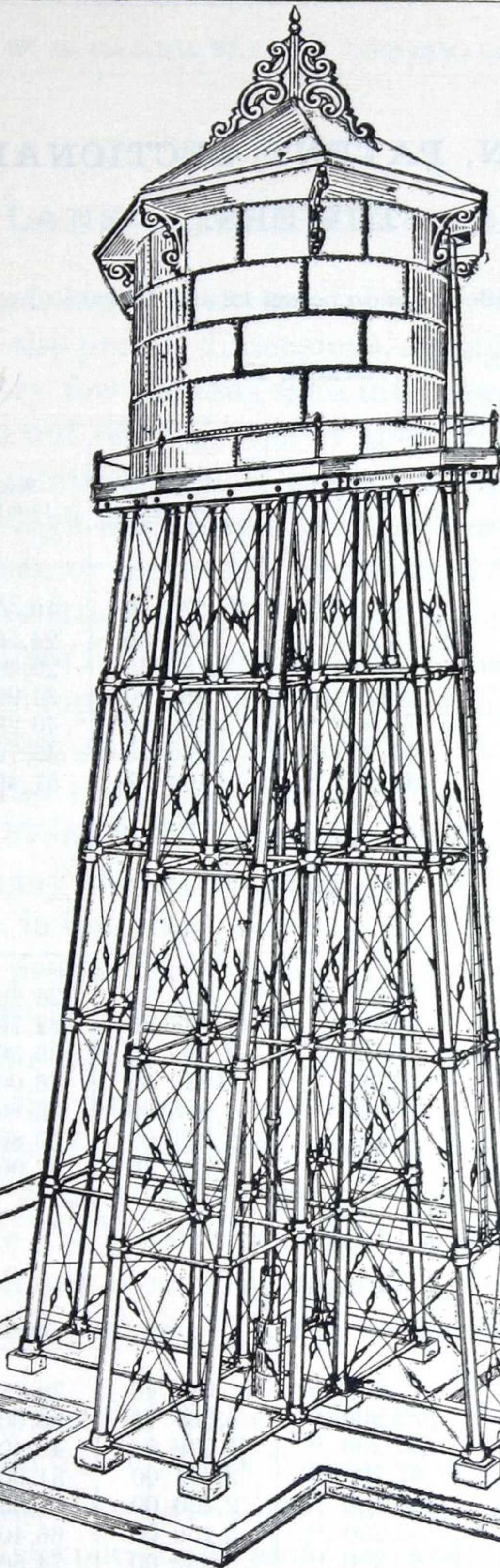
We furnish these Towers with Louisiana Red Cypress Tanks, as shown in cut; also with Tanks made of Iron or Steel, as shown in cut on opposite page.

**WRITE FOR LIST OF CITIES USING THIS SYSTEM.** SEE PRICES OF TOWERS ON PAGE 14.  
Prices of Iron and Steel Tanks Furnished upon Application.



## TWELVE COLUMN TOWER AND STEEL TANK.

This cut represents our Patent 12-Column Sectional All Iron Tower which we build in sections, suitable to support Iron or Steel Tanks from 22 feet in diameter up to and including 28 feet in diameter, and from 40,000 to 100,000 gallons capacity.



In cut herewith, we illustrate our 12-Column Sectional All Iron Tower upon which is mounted a Steel Tank instead of a Cypress Wood Tank. In other respects, this is the same outfit as illustrated on opposite page.

SEE PRICES OF TOWERS ON PAGE 14.

This cut represents our 63-foot All Iron Tower and 100,000-gallon Steel Tank.

SEE PRICES ON PAGE 14.



## TWELVE COLUMN, PATENT, SECTIONAL, ALL IRON TOWERS.

(See cuts on pages 12 and 13.)

### CLASS X.

Height.	Capacities of Tanks Towers will Support.	Weight Iron Work.	Cost Iron Work.	Weight Complete.	Cost Complete.
27 feet.	40,000 to 50,000 Gallons.	10,820 lbs.	\$ 615 70	19,550 lbs.	\$ 735 90
39 "		15,830 "	898 30	24,550 "	1,018 50
51 "		20,950 "	1,186 65	29,680 "	1,306 85
63 "		26,200 "	1,481 80	34,920 "	1,601 00
75 "		31,500 "	1,782 90	40,280 "	1,903 00
87 "		37,000 "	2,090 75	45,760 "	2,210 00
100 "		42,650 "	2,404 75	51,400 "	2,525 00

### CLASS Y.

27 feet.	50,000 to 60,000 Gallons.	13,880 lbs.	\$ 798 25	26,360 lbs.	\$ 968 70
39 "		20,280 "	1,163 60	32,760 "	1,334 00
51 "		26,820 "	1,536 40	39,300 "	1,706 90
63 "		33,500 "	1,916 65	46,000 "	2,087 00
75 "		40,320 "	2,305 00	52,800 "	2,475 50
87 "		47,300 "	2,701 00	59,800 "	2,871 50
100 "		54,400 "	3,105 40	67,000 "	3,276 00

### CLASS Z.

27 feet.	60,000 to 80,000 Gallons.	15,540 lbs.	\$ 947 40	28,750 lbs.	\$1,128 20
39 "		22,800 "	1,358 75	36,000 "	1,539 60
51 "		30,200 "	1,798 00	43,400 "	1,978 60
63 "		37,730 "	2,244 00	51,000 "	2,425 00
75 "		45,420 "	2,700 00	58,650 "	2,880 00
87 "		53,250 "	3,160 00	66,400 "	3,342 00
100 "		61,300 "	3,632 00	74,500 "	3,814 00

### CLASS W.

27 feet.	80,000 to 100,000 Gallons.	19,900 lbs.	\$1,272 00	37,900 lbs.	\$1,572 00
39 "		29,000 "	1,844 00	47,000 "	2,144 00
51 "		38,000 "	2,425 00	56,000 "	2,725 00
63 "		47,200 "	3,016 00	65,200 "	3,316 00
75 "		56,600 "	3,617 00	74,600 "	3,917 00
87 "		66,250 "	4,225 00	84,250 "	4,525 00
100 "		76,300 "	4,843 00	94,300 "	5,143 00



## PLANS AND SPECIFICATIONS.

In building foundations and erecting towers for tanks, the first object to be considered is the proper dimensions, strength, etc., of the material to be used, as very few persons take into consideration, and, in fact, a great many do not realize, even if they know, the **great weight** contained in a comparatively small volume of water; for instance, **5,000 gallons** of water weigh **40,000 pounds**, or more than **20 tons**, and **20,000 gallons** weigh **165,000 pounds**, or more than **85 tons**, and **50,000 gallons** weigh more than **200 tons**. We know of an instance where a customer, in order to save a few dollars for a Plan, had a Foundation for a 10,000 gallon Tank erected on top of his mill building, designed by a local carpenter and builder, and this Foundation gave way under the load, broke through the roof, knocked out the end of the building, and caused a loss of over \$40,000 to machinery and stock alone. We can name a great many such instances. Therefore, we say **too much care** can not be given in building your Towers and Foundations of proper dimensions and proportions to give sufficient strength to carry, with safety, the load to be placed upon them, as well as to withstand the wind pressure to which they may be subjected, and, at the same time, have no more material in either Foundation or Tower than is actually necessary; for, if the foundation settle, or the timbers upon which the Tank rests should spring under the weight of the Tank and contents, the Tank will surely leak, and it will be impossible to make it hold without correcting the error, which often amounts to more than the **whole first cost** of a Tower **built of proper proportions** and on **correct principles**.

We frequently hear of Towers blowing down, or giving away, or springing so much out of shape that the Tank can not be made tight, and in **every** instance we have found that the Foundations or Towers were put up by inexperienced and incompetent persons who merely guessed at the strength required; and as it is very unsatisfactory and annoying to us, as well as to our customers, to have our Tanks set upon foundations such as will cause them to leak, we have concluded to offer, at a moderate price, to parties desiring to erect their own Towers, a complete set of Blue Print Drawings, with specifications and bills of materials for Foundations and Towers of design illustrated on page 16, for Towers up to and including 75 feet in height and for support of Tanks up to 25,000 gallons capacity.

**SEE PRICES OF PLANS AND SPECIFICATIONS ON PAGE 17.**

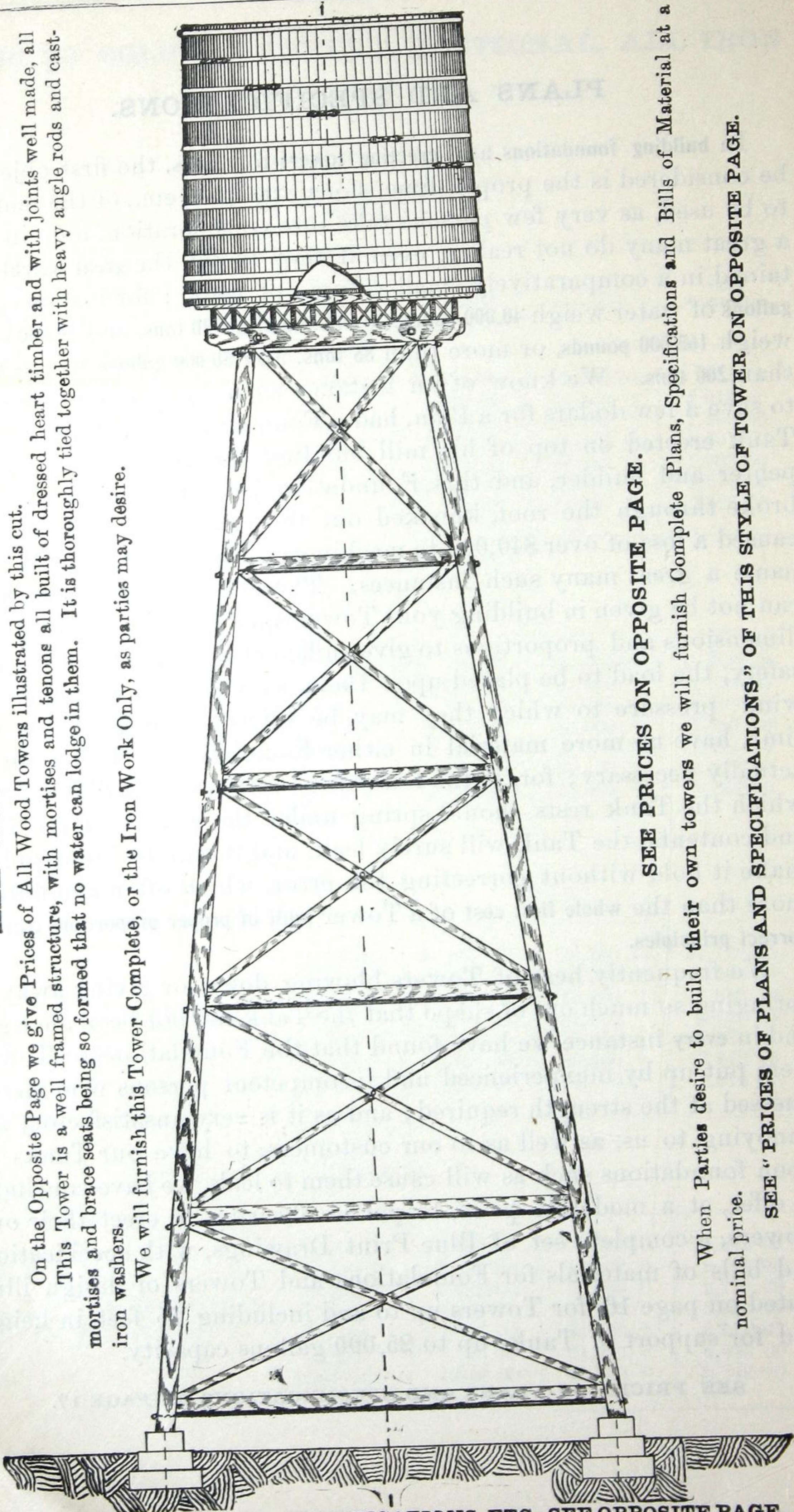


## ALL WOOD FRAMED TOWERS.

On the Opposite Page we give Prices of All Wood Towers illustrated by this cut.

This Tower is a well framed structure, with mortises and tenons all built of dressed heart timber and with joints well made, all mortises and brace seats being so formed that no water can lodge in them. It is thoroughly tied together with heavy angle rods and cast-iron washers.

We will furnish this Tower Complete, or the Iron Work Only, as parties may desire.



SEE PRICES ON OPPOSITE PAGE.

When Parties desire to build their own towers we will furnish Complete Plans, Specifications and Bills of Material at a nominal price.

SEE "PRICES OF PLANS AND SPECIFICATIONS" OF THIS STYLE OF TOWER ON OPPOSITE PAGE.

FOR PRICES OF PLANS, SPECIFICATIONS, ETC., SEE OPPOSITE PAGE.



## ALL WOODEN TOWERS.

(See Cut on opposite page.)

## No 1.

Height.	Capacities of Tanks Towers will Support.	Shipping Weight Iron Work.	Cost Iron Work.	Shipping Weight Tower Complete.	Cost of Tower Complete.	Prices of Plans, Specifi- cations and Bills of Ma- terial Alone.	Estimated Cost of Foundat'n.
15		67 lbs.	\$ 4 00	2,545 lbs.	\$ 50 25	\$ 5 00	\$10 00
27	1,000	131 "	7 75	4,337 "	75 25	7 50	10 00
39	to	204 "	12 00	6,362 "	103 25	10 00	10 00
51	3,000	293 "	17 50	8,852 "	148 25	12 50	10 00
63	gallons.	426 "	25 25	11,672 "	189 75	15 00	10 00
75		540 "	32 00	14,667 "	232 25	20 00	10 00

## No. 2.

15		68 lbs.	\$ 4 50	3,849 lbs.	\$ 78 25	\$ 7 50	\$15 00
27	4,000	149 "	8 75	6,394 "	113 00	10 00	15 00
39	to	233 "	13 75	9,134 "	150 75	12 50	15 00
51	8,000	329 "	19 50	12,270 "	213 25	15 00	15 00
63	gallons.	500 "	29 50	16,407 "	274 00	22 50	15 00
75		620 "	37 75	20,880 "	352 75	25 00	15 00

## No 3.

15		114 lbs.	\$ 6 50	6,048 lbs.	\$126 00	\$10 00	\$25 00
27	10,000	219 "	12 75	9,289 "	173 50	15 00	25 00
39	to	344 "	20 00	13,126 "	228 00	17 50	25 00
51	15,000	490 "	28 75	17,204 "	317 75	20 00	25 00
63	gallons.	712 "	42 00	22,614 "	401 00	30 00	25 00
75		890 "	52 50	28,277 "	504 00	35 00	25 00

## No. 4.

15		140 lbs.	\$ 8 25	8,665 lbs.	\$176 50	\$15 00	\$35 00
27	15,000	268 "	15 75	13,605 "	246 75	20 00	35 00
39	to	407 "	24 00	19,037 "	324 00	23 00	35 00
51	20,000	564 "	33 25	25,382 "	455 25	27 50	35 00
63	gallons.	806 "	47 75	32,154 "	570 00	35 00	35 00
75		1,000 "	60 00	39,431 "	701 00	42 50	35 00

## WRITE FOR DISCOUNTS.

THE HEIGHTS GIVEN ABOVE ARE OUR STANDARD HEIGHTS.

Why is Cypress the best wood for Tanks ?

Because it has not the knots and defects found in White Pine, Cedar and other woods.



## CYPRESS LUMBER.

The following extract is taken from the *Scientific American* of December, 1891:

Cypress timber, owing to its beautiful finish and durability and lightness, has long been in favor in the Gulf Coast States, and is fast growing in favor in the more Northern States, especially among those who have tested and know its many good qualities.

Cypress is especially adapted to BUILDING TANKS, TUBS AND VATS, and when used for such purposes IT NEVER WILL DECAY.

It also makes better Sash, Doors, Blinds and Frames than White Pine, and many Railroads use it for Water Tanks. It stands the weather better than White Pine; does not WARP or TWIST, and does not SHRINK or SWELL.

NO LUMBER in the WORLD equals it for Tanks, Vats, Siding or Weather Boards, Exposed Floors or Shingles. Siding can be used and not painted, and will last fifty years.

The DURABILITY of CYPRESS is illustrated by the examples of ROOFS in Mobile and New Orleans in good order laid SIXTY YEARS ago.



## FIVE REASONS

### Why Cypress Lumber Makes the Best Wood for Tanks.

*First:* It will last for ages without decay.

*Second:* It does not shrink and swell like other woods.

*Third:* It does not warp or twist when exposed to the weather.

*Fourth:* It has not the knots and defects found in White Pine, Cedar and other woods.

*Fifth:* When seasoned it is lighter than all other woods, assuring cheaper transportation.



# IRON AND STEEL TANKS.

---

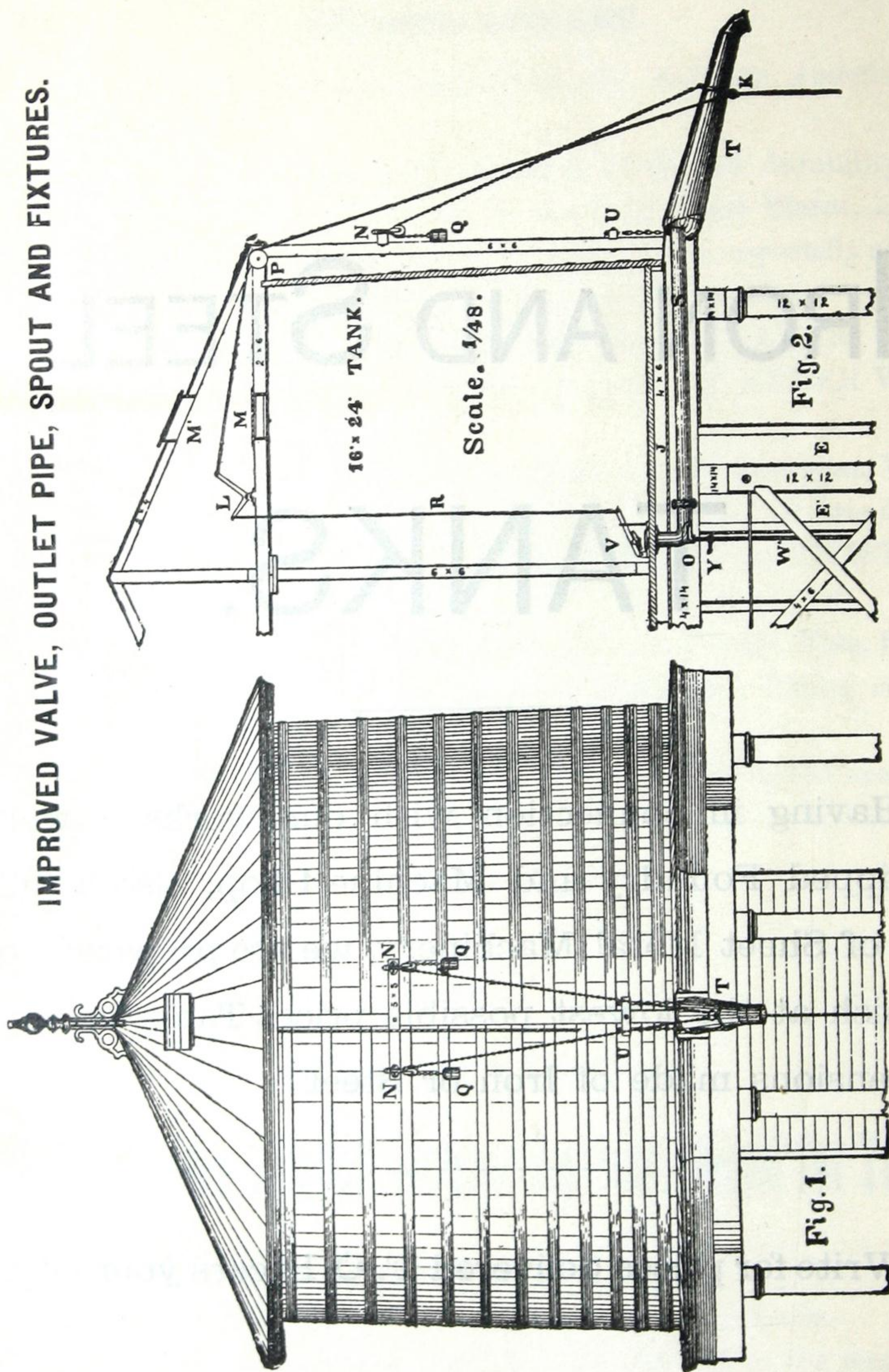
Having in connection with our works a well equipped Foundry and Machine Shop, also a full line of Sheet Metal Machinery, we are prepared to furnish at the lowest possible prices Tanks of any dimensions made of Iron or Steel.

---

Write for prices delivered F. O. B. cars your city.



## IMPROVED VALVE, OUTLET PIPE, SPOUT AND FIXTURES.



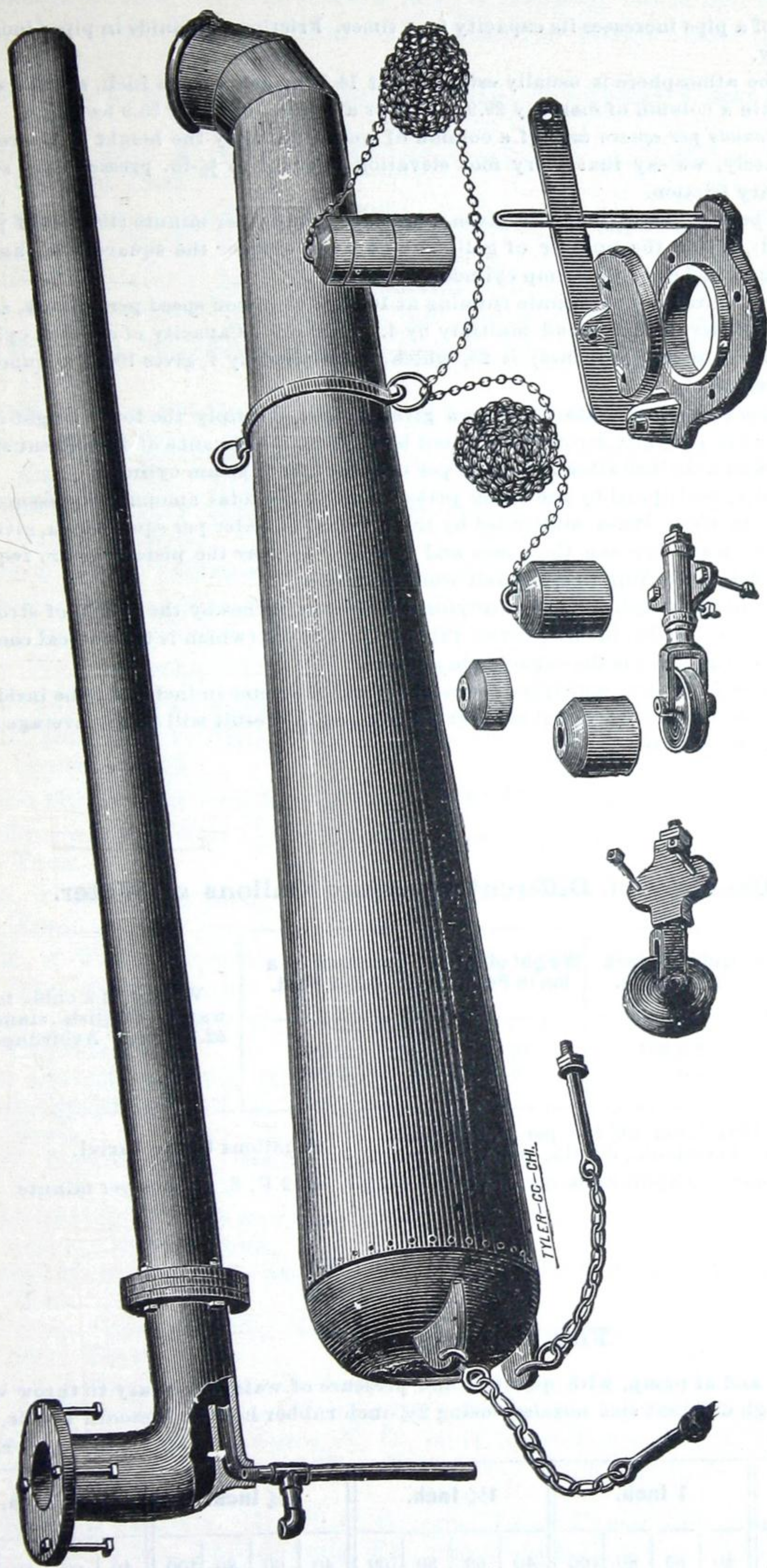
In Use on Many of the Leading Roads of the United States.

Why is Cypress the Best Wood for Tanks ?

Because it does not warp or twist when exposed to the weather.



IMPROVED VALVE, OUTLET PIPE, GALVANIZED SPOUT AND FIXTURES.



The above cut represents our Improved Tank Fixtures, which are strictly frost proof.

We furnish these in three sizes—6, 7 and 8 inch.

	6 in.	7 in.		
Fixtures for 16 foot diameter Tank	\$65 00	\$75 00	Tank Float Valves, for 1 1/4 inch pipe	\$1 00
" " "	"	"	" " " 1 1/2 "	"
" " "	"	"	" " " 2 and 2 1/2 inch pipe	1 25
" " "	"	"	" " " 3 inch pipe	4 00
" " "	"	"	" " " "	5 00
Tank Outlet Valves	12 00	15 00	" " " "	7 50

Why is Cypress the best wood for Tanks ?  
Because it has not the knots and defects found in White Pine, Cedar and other woods.



## USEFUL INFORMATION—WATER.

Doubling the diameter of a pipe increases its capacity four times. Friction of liquids in pipes increases as the square of the velocity.

The mean pressure of the atmosphere is usually estimated at 14.7 lbs. per square inch, so that with a perfect vacuum it will sustain a column of mercury 29.9 inches or a column of water 33.9 feet high.

To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434. Approximately, we say that every foot elevation is equal to  $\frac{1}{2}$ -lb. pressure per square inch; this allows for ordinary friction.

To find the diameter of a pump cylinder to move a given quantity of water per minute (100 feet of piston being the standard of speed), divide the number of gallons by 4, then extract the square root, and the product will be the diameter in inches of the pump cylinder.

To find quantity of water elevated in one minute running at 100 feet of piston speed per minute, square the diameter of the water cylinder in inches and multiply by 4. Example: Capacity of a 5-inch cylinder is desired. The square of the diameter (5 inches) is 25, which, multiplied by 4, gives 100, the number of gallons per minute (approximately).

To find the horse-power necessary to elevate water to a given height, multiply the total weight of the water in pounds by the height in feet, and divide the product by 33,000 (an allowance of 25 per cent should be added for water friction, and a further allowance of 25 per cent for loss in steam cylinder).

The area of the Steam Piston, multiplied by the steam pressure, gives the total amount of pressure that can be exerted. The area of the Water Piston, multiplied by the pressure of water per square inch, gives the resistance. A margin must be made between the power and resistance to move the pistons at the required speed—say from 20 to 40 per cent according to speed and other conditions.

To find the capacity of a cylinder in gallons. Multiplying the area in inches by the length of stroke in inches will give the total number of cubic inches; divide this amount by 231 (which is the cubical contents of a U. S. gallon in inches), and product is the capacity in gallons.

To find the number of gallons in a Tank, multiply the inside bottom diameter in inches by the inside top diameter in inches, then this product by 34; point off four figures and the result will be the average number of gallons to one inch in depth of the Tank.

### Weight and Capacity of Different Standard Gallons of Water.

	Cubic Inches in a Gallon.	Weight of a Gal- lon in Pounds.	Gallons in a Cubic Foot.	Weight of a cubic foot of water, English standard, 62.321 lbs. Avoirdupois.
Imperial or English . . . .	277.274	10.00	6.232102	
United States . . . . .	231.	8.33111	7.480519	

Weight of Crude Petroleum,  $6\frac{1}{2}$  lbs. per U. S. gallon . . } 42 gallons to the barrel.  
Weight of Refined Petroleum,  $6\frac{1}{2}$  lbs. per U. S. gallon, }

A "miner's inch" of water is approximately equal to a supply of 12 U. S. gallons per minute.

### Fire Streams.

Pressures required at nozzle and at pump, with quantity and pressure of water necessary to throw water various distances through different size nozzles—using  $2\frac{1}{2}$ -inch rubber hose and smooth nozzle.

G. A. ELLIS, C. E.

Size of Nozzles.	1 Inch.				$1\frac{1}{8}$ Inch.				$1\frac{1}{4}$ Inch.				$1\frac{3}{8}$ Inch.			
Pressure at nozzle . . . . .	40	60	80	100	40	60	80	100	40	60	80	100	40	60	80	100
*Pressure at Pump or hy- drant with 100 feet $2\frac{1}{2}$ - inch rubber hose . . . . }	48	73	97	121	54	81	108	135	61	92	123	154	71	107	144	180
Gallons per minute . . . . .	155	189	219	245	196	240	277	310	242	297	342	383	293	358	415	462
Horizontal distance thrown	109	142	168	186	113	148	175	193	118	156	186	207	124	166	200	224
Vertical distance thrown .	79	108	131	148	81	112	137	157	82	115	142	164	85	118	146	169

\*For greater length of  $2\frac{1}{2}$  hose the increased friction can readily be obtained by noting the differences between the above given "pressure at nozzle" and "pressure at pump or hydrant with 100 feet of hose." For instance, if it requires at hydrant or pump 8 lbs. more pressure than it does at nozzle to overcome the friction when pumping through 100 feet of  $2\frac{1}{2}$  inch hose (using 1 inch nozzle, with 40 lb. pressure at said nozzle), then it requires 16 lbs. pressure to overcome the friction in forcing through 200 feet of same size hose.



## A FEW OF THOSE USING OUR TOWERS.

- Alabama Cotton Oil Co., Mobile, Ala., one 63-foot Tower and 30,000-gallon Steel Tank.  
 Branch Normal College, Fayetteville, Ark., one 39-foot Tower and 10,000-gallon Cypress Tank.  
 J. J. & A. D. Ellis, Stafford Springs, Conn., one 51-foot Tower and 5,000-gallon Cypress Tank.  
 John Bancroft & Sons Co., Wilmington, Del., one 27-foot Tower and 2,000-gallon Cypress Tank.  
 Grange Camp Association, Washington, D. C., one 27-foot Tower and 32,000-gallon Cypress Tank.  
 Smith & Westland, Leesburg, Fla., one 75-foot Tower and 20,000-gallon Cypress Tank.  
 City Water-Works, Bartow, Fla., one 75-foot Tower and 50,000-gallon Steel Tank.  
 A. Westland, Wyoming, Ontario, Canada, one 75-foot Tower and 20,000-gallon Cypress Tank.  
 Georgia Cotton Oil Co., Atlanta, Ga., one 80-foot Tower and 30,000-gallon Steel Tank.  
 Macon Street Railway Co., Macon, Ga., one 39-foot Tower and 10,000-gallon Cypress Tank.  
 Western Military Academy, Upper Alton, Ill., one 63-foot Tower and 5,000-gallon Cypress Tank.  
 Kingan & Co., Indianapolis, Ind., one 75-foot Tower and 32,000-gallon Cypress Tank.  
 Purcell Mill and Elevator Co., Purcell, Ind. Ty., one 51-foot Tower and 10,000-gallon Cypress Tank.  
 City Water-Works, Kingsley, Ia., one 27-foot Tower and 50,000-gallon Cypress Tank.  
 St. John's School, Salina, Kan., one 27-foot Tower and 5,000-gallon Tank.  
 E. H. Daniel, City Water-Works, Princeton, Ky., one 27-foot Tower and 20,000-gallon Cypress Tank.  
 Union Oil Co., Shreveport, La., one 80-foot Tower and 30,000-gallon Steel Tank.  
 Baltimore Car-Wheel Co., Baltimore, Md., one 75-foot Tower and 30,000-gallon Cypress Tank.  
 Wm. E. Hooper & Sons, Baltimore, Md., one 63-foot Tower and 20,000-gallon Cypress Tank.  
 R. M. & Theo. Reynolds, Monson, Mass., 51-foot and 63-foot Towers and 5,000-gallon Cypress Tanks.  
 Smith & Winchester Co., Boston, Mass., Seven Towers and 10,000 and 30,000-gallon Cypress Tanks.  
 John Carroll, Gorham, Me., one 27-foot Tower and 15,000-gallon Cypress Tank.  
 Mississippi Cotton Oil Co., Columbus, Miss., one 63-foot Tower and 30,000-gallon Steel Tank.  
 W. T. Barker & Co., Bennington, N. H., one 39-foot Tower and 10,000-gallon Cypress Tank.  
 North Spring Lake Water Co., North Spring Lake, N. J., one 63-foot Tower and 40,000-gallon Cypress Tank.  
 Stewart Hartshorn Co., East Newark, N. J., one 39-foot Tower and 5,000-gallon Cypress Tank.  
 American Cotton Oil Co., New York City, nine 63 and 80-foot Towers and 30,000-gallon Steel Tanks.  
 Stecher Lithograph Co., Rochester, N. Y., three 15 and 27-foot Towers and 5,000 and 10,000-gallon Cypress Tanks.  
 Biddle University, Charlotte, N. C., one 51-foot Tower and 20,000-gallon Cypress Tank.  
 Wilmington Compress and Warehouse Co., Wilmington, N. C., one 63-foot Tower and 10,000-gallon Tank.  
 Black & Clawson Co., Hamilton, O., one 27-foot Tower and 10,000-gallon Cypress Tank.  
 P. P. Mast & Co., Philadelphia, Pa., one 39-foot Tower and 5,000-gallon Cypress Tank.  
 United States Glass Co., Pittsburg, Pa., one 51-foot Tower and 10,000-gallon Cypress Tank.  
 M. B. Buford, Westerly, R. I., one 39-foot Tower and 5,000-gallon Cypress Tank.  
 Joy & Son, Florists, Nashville, Tenn., one 39-foot Tower and 5,000-gallon Cypress Tank.  
 Memphis Car and Foundry Co., Memphis, Tenn., one 63-foot Tower and 20,000-gallon Cypress Tank.  
 National Cotton Oil Co., Denison, Tex., one 80-foot Tower and 30,000-gallon Steel Tank.  
 Soldiers' Home, Richmond, Va., one 63-foot Tower and 20,000-gallon Cypress Tank.  
 Hamilton Manufacturing Co., Two Rivers, Wis., one 51-foot Tower and 5,000-gallon Tank.



# RESERVOIR TANKS

—FOR—

**Railroads, Water Works, Mills, Factories,  
Hotels and Farm Use.**

---

**TUBS, TANKS, VATS <sup>AND</sup> STUFFING WHEELS**

**FOR TANNERIES.**

---

**ROUND, HALF-ROUND AND SQUARE**

**STOCK TANKS.**

---

**TUBS, TANKS AND KETTLES**

**FOR PAPER MILLS.**

---

**FERMENTERS, MASH TUBS,**

**GENERATORS, RECTIFIERS,**

**RECEIVERS, WHISKY TUBS,**

**SLOP TUBS AND YEAST TUBS**

**FOR DISTILLERIES AND BREWERIES.**

---

**WE USE ONLY KILN-DRIED LUMBER FOR SPIRIT TUBS.**



